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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,925	01/31/2001	Sara H. Basson	YOR920000740US1	5320

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EXAMINER	
BRANT, DMITRY	

ART UNIT	PAPER NUMBER
2655	9

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/774,925	BASSON ET AL.	
	Examiner	Art Unit	
	Dmitry Brant	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/1/04*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23-28* is/are allowed.

6)☒ Claim(s) *1-11, 13-20, 22* is/are rejected.

7)☐ Claim(s) *12 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 4, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Schyndel (5,940,118).

As per claims 1,15, Van Schyndel discloses:

a method of providing a user (110, FIG. 5) with one or more visual indications, in accordance with a display system associated with the user, of who is currently speaking during an event in which the user is engaged, the event including one or more other individuals, the method comprising the steps of:

- identifying the location of the individual who is currently speaking during the event (20, FIG. 5);

- determining whether the individual identified as the current speaker is within a field of *audible* perception of the user (50, FIG. 5 and Col. 9, lines 4-6 - the directional microphone is moved in the direction of imminent speakers only if they are not within the audible perception of the user as determined by the system. When the user is teleconferencing, the user's audible field of perception, in the broadest sense, is defined by what he can hear through the teleconferencing system and his field of view is defined by the position and the field of view of the camera in the conference room);

- displaying a first visual indicator to the user, in accordance with the display system, in association with the individual identified as the current speaker when the individual is within the field of view of the user (105, FIG. 5 and Col. 7, lines 35-46, Col. 9, lines 22-36, i.e., the video and audio showing the individual who is speaking when camera 30 is pointing at that individual and transmission of this data to 105);

(preferred embodiment)

Van Schyndel does not disclose (1) the use of determining whether the individual identified as the current speaker is within a field of view of the user and (2) displaying a second visual indicator to the user, in accordance with the display system, when the individual identified as the current speaker is not within the field of view of the user.

background art

However, Van Schyndel ~~(preferred embodiment)~~ does disclose that it is well-known to direct a camera at a determined sound source to provide coordinated video/audio and eliminate the need for human operator (See Col. 2, lines 27-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Schyndel in order to determine whether the current speaker is within the field of view of the user as well as the field of audible perception and then direct the camera toward the speaker for display to the user in Van Schyndel (i.e. displaying a second visual indicator, via the monitor 105 that would show redirecting of the camera) as suggested by Van Schyndel as being well-known, the motivation being to provide coordinated video/audio and eliminate the need for a human operator.

As per claim 3, Van Schyndel discloses:

- capturing one or more video images of the one or more individuals participating in the event (Col. 7, lines 35-36);
- analyzing the one or more captured video images to determine which individual has one or more facial features indicative of speech (Col.7, lines 39-41);
- designating the individual with the one or more facial features indicative of speech as the current speaker ("current talker", Col. 7, lines 42-43);
- and determining the location of the individual designated as the current speaker (Col. 7, lines 45-50).

As per claim 4, Van Schyndel teaches capturing one or more video images of the field of the user (step 245, FIG. 2). Since the field of view of the user of the

teleconferencing system in Van Schyndel is always the view through the center camera, the position of the current talker is determined as an offset from the central camera position, and the microphones are moved accordingly. (FIG. 4a and Col. 7, lines 50-55)

4. Claims 2, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Schyndel as applied to claim 1 above, and further in view of Budd et al. (6,222,677)

Van Schyndel discloses a stationary display system (105, FIG. 5) Van Schyndel does not disclose the use of display system worn by the user.

Budd et al. teach head-mounted display system. (FIG. 1)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Schyndel as taught by Budd et al. in order to to provide the user with an ability to view the conference while having the freedom to move around the office because the display system is light and conveniently wearable. (Col. 2, lines 30-35)

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Schyndel as applied to claim 1 above, and further in view of Potts et al. (6,593,956)

As per claim 6, Van Schyndel discloses:

- capturing audio data of the one or more individuals participating in the event (inherent during the use of microphones, 60, FIG. 5);
- analyzing the audio data to determine which individual is uttering sound indicative of speech (steering microphone towards the direction of incoming sound, Col. 5, lines 5-8 and step 335, FIG. 3);
- designating the individual uttering sound that is indicative of speech as the current speaker. (determining whether the "imminent talker" is currently speaking, Col. 9, lines 10-19)

Van Schyndel does not disclose the use of determining the location of the individual designated as the current speaker using audio information.

Potts et al. teach determining the location of the speaker based on audio information (114, FIG. 4 and Col. 17, lines 35-55)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Schyndel as taught by Potts et al. in order to improve the speaker detection, since the combined use of both audio and video detection modules to identify the current speaker would improve the overall reliability of the system (Col. 4, lines 25-29)

As per claims 7-8, Van Schyndel teaches capturing directional data associated with display system and positional data associated with the user (step 245, FIG. 2). Since the field of view of the user of the teleconferencing system in Van Schyndel is

always the view through the center camera, the position of the current talker is determined as an offset from the central camera position, and the microphones are moved accordingly. (FIG. 4a and Col. 7, lines 50-55) .

6. Claims 9-11, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Schyndel as applied to claim 1 above, and further in view of Hein et al. (6,466,250)

Van Schyndel does not disclose that a "first visual indicator comprises a marker displayed in proximity to a representation of the individual identified as the current speaker on the display system."

Hein et al. teach using a colored frame or a shared cursor (marker) around the speaker's image in order to identify him to the viewer where the frame can change color or change background (Col. 7, lines 8-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Schydel et al. as taught by Hein et al. in order to identify the current speaker located in the field of view of the user, because, as it is well-known in the art, the indicator would point out the current speaker from a group of people (Hein et al., Col. 3, lines 7-9)

7. Claims 13-14, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Schyndel as applied to claim 1 above, and further in view of Butnaru et al. (6,240, 392)

Van Schydel does not disclose obtaining textual transcription of audio content through either human stenography or speech recognition, and displaying textual transcription on the display system.

Butnaru et al. discloses the system that is capable of recognizing the speech using speech recognizer (elem. 55, FIG. 3) and displaying the text content to the user via a display system (Col. 5, lines 49-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Schydel et al. as taught by Butnaru et al. to enable the deaf people using the system to participate in the videoconferencing or other forms of telecommunications. (Col. 1, line 63 - Col. 2, line 8)

Allowable Subject Matter

8. Claims 5, 12, 21, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Independent claim 23 is allowed. Claims 24-28 are allowed as dependent on claim 23 and further limiting its scope.

The following is a statement of reasons for the indication of allowable subject matter: prior art does not teach or suggest displaying the second indicator to a user,

directing him to turn his head in the direction of the speaker (claims 12, 21) and displaying the first visual indicator in such a way that the images of the current speakers and field of view of the user are combined (claim 5). Claim 23 combines all of these individual limitations, and hence is also allowable.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Spitzer (WO 99/23524) teaches an eyeglass interface system.

A white-paper by Personal Captioning System ("Live Theater Captioning System") teaches the use of glasses in conjunction with audio/video hardware.

Michael Brandstein (published 1998), "Real-Time Face Tracking Using Audio and Image Data" teaches a system similar to that of Potts et al., in addition showing a facial outline of the tracked face.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Brant whose telephone number is (703) 305-8954. The examiner can normally be reached on Mon. - Fri. (8:30am - 5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Ivars Smits can be reached on (703) 306-3011. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Tech Center 2600 receptionist whose telephone number is (703) 305- 4700.

DB

8/5/04

W. R. YOUNG
PRIMARY EXAMINER